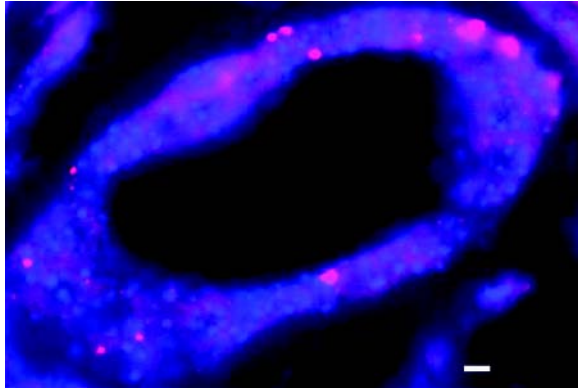
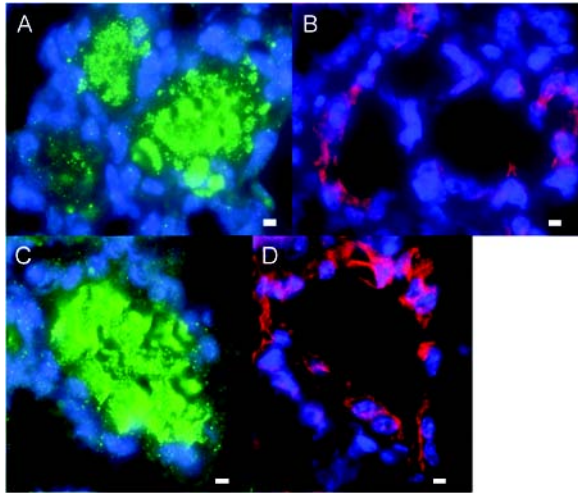


## SUPPLEMENTARY INFORMATION

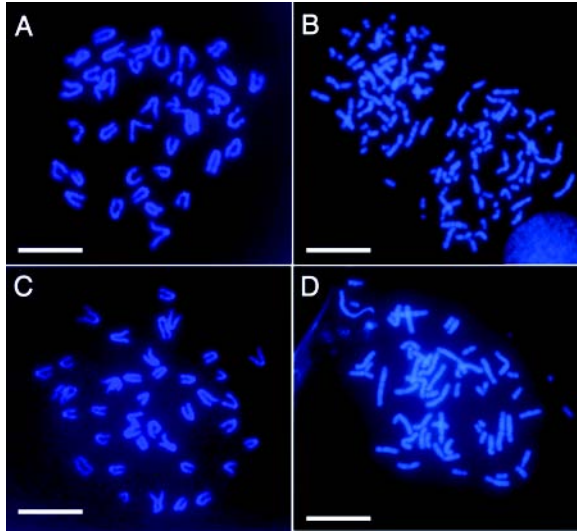
*Supplemental Figure 1.*



*Supplemental Figure 2.*



*Supplemental Figure 3.*



*Supplementary Figure Legends*

**Figure 1: Fluorescent In Situ Hybridization (FISH) detection of human centromeric DNA in cells comprising a mammary duct in a secondary outgrowth from a fragment implant of a human (NT2)/mouse chimera.** Human centromeric DNA is located by Cy3-labeled probe specific for human centromeric DNA (Pink/Red). Scale bar equals 10  $\mu$ m.

**Figure 2: NT2 cells contribute to the production of prolactin.** Human prolactin is expressed in the mammary glands of lactating chimeric outgrowths (green, A, C) that are composed of human NT2 cells which express keratin 8 (red, B, D) and mouse cells that don't. All fluorescent sections are counterstained with DAPI (blue). Scale bar equals 10  $\mu$ m.

**Figure 3: Chimeric mammary outgrowths do not contain fused human and mouse cells.** Metaphase spreads of (A) mouse mammary epithelial cells prior to transplantation, (B) epithelial cells from a chimeric outgrowth containing only mouse chromosomes, (C) NT2 cell prior to transplantation and (D) epithelial cell from chimeric outgrowth containing only human chromosomes. No evidence of human/mouse cell fusion was observed and all cells had the expected number of chromosomes. Scale bar in all is 10  $\mu$ m.

*Supplemental Table 1: Transplantation results*

<b>Implant Generation</b>	<b>Cells Transplanted</b>	<b>Number of Outgrowths</b>	<b>Number of Tumors Formed</b>
First	10K NT2	No (0/6)	Yes (2/6)
First	10K NT2 + 50K Balb/c MEC	Yes (5/6)	No (0/6)
First	1K NT2 + 50K Balb/c MEC	Yes (10/12)	No (0/12)
Second	10K NT2/MEC	Yes (8/8)	No (0/8)
Second	1K NT2/MEC	Yes (10/10)	No (0/10)

MEC = Mammary Epithelial Cells

The number of outgrowths formed versus total number of mammary glands examined. NTERA2 (NT2) cells were transplanted alone or in concert with mouse mammary epithelial cells into the cleared mammary fat pad of juvenile female mice. Transplant recipients were euthanized 8-10 weeks later, and resulting mammary outgrowths enumerated. The secondary outgrowths were produced from fragments taken from the 1<sup>st</sup> generation chimeras implanted into epithelium-free mammary fat pads. All transplant experiments were carried out using Nu/Nu female mice.

*Supplemental Table 2.*

Source	Number of Cells Counted	Number of Human Cells	Range of Human Chromosomes per cell	Number of Mouse Cells	Range of Mouse Chromosomes per Cell	Number of Human/Mouse Fused Cells
NT2/Mouse MEC Co-Culture	22	10	44-59	12	40	0
2 <sup>nd</sup> Generation Chimeric Gland	30	5	45-59	25	40-80*	0

\*One cell contained 80 chromosomes, all exhibiting mouse morphology

MEC = Mammary epithelial cell

**Metaphase Spreads of Second Generation Outgrowths demonstrate no evidence of human and mouse cell fusions.** Metaphase spreads were generated from NT2 cells co-cultured with mouse mammary epithelial cells or from 2<sup>nd</sup> generation chimeric mammary glands as described in the materials and methods. No mouse/human-fused cells were observed from either sample.